VOLUME CONTENTS

1989 NUMBER 1

CONTENTS

Yu. N. Vershinin, V. M. Meerovich, N. E. Naumkina, N. L. Nivikov and V. L. Sokolovskii	1	A comparative analysis of non-linear reactors with screens made from low-temperature and high-temperature (about 90 K) superconductors
K. I. Kim and K. K. Kim	10	The equations of a synchronous machine with electrodynamic suspension of the rotor
G. V. Tazov and V. V. Krushchev	23	A mathematical model for asymmetrical induction machines
S. F. Zhukov and V. N. Kravchenko	39	Technical diagnosis of relay protection and automatic apparatus by logico-time parameters
M. L. Levinshtein and A. A. Kalyuzhnyi	51	Use of static compensators for quenching the secondary arc in the single-phase autoreclosure of extra-high voltage lines
G. M. Mustafa and F. I. Kovalev	64	Comparative analysis of three methods of switch mode servo inverter control
G. I. Peredel'skii	81	On a property of multi-element electric circuits
F. A. Mamedov and S. A. Maruev	87	The e.m.f. of the failed phase of an induction motor stator
A. M. Guseinov	94	Phase coordinate analysis of asymmetrical steady-states in complex systems
B. I. Kuznetsov	109	Decomposition of optimum synthesis for multi-channel servomechanisms
F. I. Tsybulevskii	123	Fourier series for the magnetomotive forces of rotating electric machine symmetrical polyphase windings
E. L. Amromin, G. N. Kaporskaya, A. B. Novgorodtsev, S. L. Shishigin and G. A. Shneerson	134	Problems in analysis of electromagnetic fields in regions with a free boundary
	145	Abstracts of papers not translated from *Elektrichestvo*, Nos 1–3, 1989

1989 NUMBER 2

CONTENTS

G. N. Aleksandrov and Yu. A. Gerasimov	1	Study of the electric strength of the insulating bracket of high-voltage overhead power lines

A. P. Koryavin	14	Effect of a set voltage distribution on the discharge characteristics of post insulators
T. G. Pospelova	25	Determination of electrical safety based on the theory of fuzzy sets
T. S. Loginov	33	The temperature field of the active element of an electrical device
A. B. Gudzenko and **A. I. Telis**	41	Analysis of high-order pulse-width systems
G. Ya. Vagin, I. G. Krakhmalin and **E. B. Solntsev**	53	Determination of the statistical characteristics of samples of random processes involving a change in the electrical energy parameters
N. M. Lesin and **S. N. Savin**	61	Estimation of the noise immunity of digital relay protection devices and automatic machines based on a microcomputer
K. N. Vakulenko	67	Optimization of asynchronous machine operation with the aid of U-shaped characteristics
I. F. Borodin and **Academician Vaskhnil**	74	The application of ultrahigh frequency in farming
G. F. Muchnik, M. G. Domanin and **A. Yu. Astakov**	89	Regularities in the transition of forced oscillations in a non-linear RLC-circuit into a stochastic state
N. V. Shilin and **Yu. B. Romanov**	99	The arc temperature time constant in high-voltage circuit breakers
I. I. Treshchev, A. L. Kopylov and **V. A. Prokhorov**	111	Synchronous machine research using typical state data
	125	Abstracts of papers not translated from *Elektrichestvo*, Nos 4–6, 1989

1989 NUMBER 3

CONTENTS

R. I. Mustafaev, Yu. M. Kudryukov and **B. A. Listengarten**	1	Analysis of output power control systems for wind-power plant
T. C. Gnuni and **T. A. Pogosyan**	11	Selection of voltage settings for adaptive single-phase automatic reclosing apparatus for extra-high-voltage transmission lines
V. I. Popov	22	Optimization of hybrid armature winding parameters of synchronous machines with a third field harmonic excitation system
I. V. Volkov, S. I. Zakrevskii and **I. I. Smolyanskii**	55	Taking account of thermal conditions in estimating the effectiveness of inducones in electrical apparatus
N. N. Belyakov, A. F. D'yakov, V. V. Il'inichnin, O. A. Nikitin, V. S. Rashkes and **M. I. Khoroshev**	64	Single-phase automatic reclosing cycle tests on the 1150 kV Ekibastuz–Kokchetav transmission line with shunt reactors

R. R. Karimov, V. A. Stroev, V. V. Khudyakov and **V. A. Shtrobel'**	79	Steady-state analysis of power systems containing d.c. transmissions and large rectifier-inverter substations
L. P. Gavrilov	93	Nonlinear circuit analysis by time relationships represented by Chebyshev function series
B. I. Yakhinson	106	Fourpole families
V. V. Filaretov	110	The unistor–signal graph of an electronic circuit and its analysis
A. N. Gerasimovich	125	The electromagnetic field in a screened ferromagnetic plate in a field of alternating currents
V. L. Savchenko, Yu. P. Zorikov, R. P. Samygin, P. M. Platonov and **P. G. Tikhonov**	135	Selection of the structure and parameters of an automatic power control system for electric arc and ferro-alloy furnaces
V. M. Nadtochii and **V. A. Tsvetkov**	146	The forces and vibrations in hydrogenerators operating under asymmetrical conditions
	154	Abstracts of papers not translated from *Elektrichestvo*, Nos 7–9, 1989

1989 NUMBER 4

CONTENTS

N. R. Rakhmanov and **E. A. Zhitomirskii**	1	Use of identification methods for the determination of electrical states of a power system
V. I. Milykh and **R. I. Tretevich**	13	Investigation of the magnetic field in a high-power motor with the armature winding in the gap
V. B. Nizimov and **S. C. Kolychev**	27	An increase in synchronous motor asynchronous moment by starting and protective circuit restructuring
A. V. Orlov, A. A. Egorov and **O. G. Sablin**	37	Determination of desynchronized synchronous machine overload capacity
V. V. Burgsdorf and **L. G. Nikitina**	43	Determination of permissible load currents in electrical overhead transmission lines from conductor temperature rise
V. Z. Annenkov	59	Calculation of earthing rod pulse characteristics with allowance for soil non-linearity
V. A. Shabanov	74	Performance analysis of multiphase remote metering devices
Yu. A. Bobkov	88	A study of the effectiveness of transposition of stator conductor overhung parts in two runs through 360°
Yu. P. Kovbasenko, I. P. Kondratenko and **A. P. Rashchepkin**	99	A study of electromagnetic continuous conducting media with non-linear parameters

N. S. Berlin, A. M. Ponomaryev and M. H. Torban — 105 Asynchronous telemetry systems for power distribution networks

A. Yu. Smirnov — 121 Toothed circuit admittance analysis of electrical machines with magnetoelectric inductor

V. V. Khrushchev and **A. L. D'yakonov** — 134 Analytical calculation of the gap permeance of electrical machines with double-sided toothing

S. P. Boyar-Sozonovich, L. V. Vishnevskii and **V. N. Belyaev** — 150 Switching in asynchronous generators for parallel operation

159 Abstracts of papers not translated from *Elektrichestvo* Nos 10–12, 1989

i Volume Contents/Author Index to the 1989 Volume